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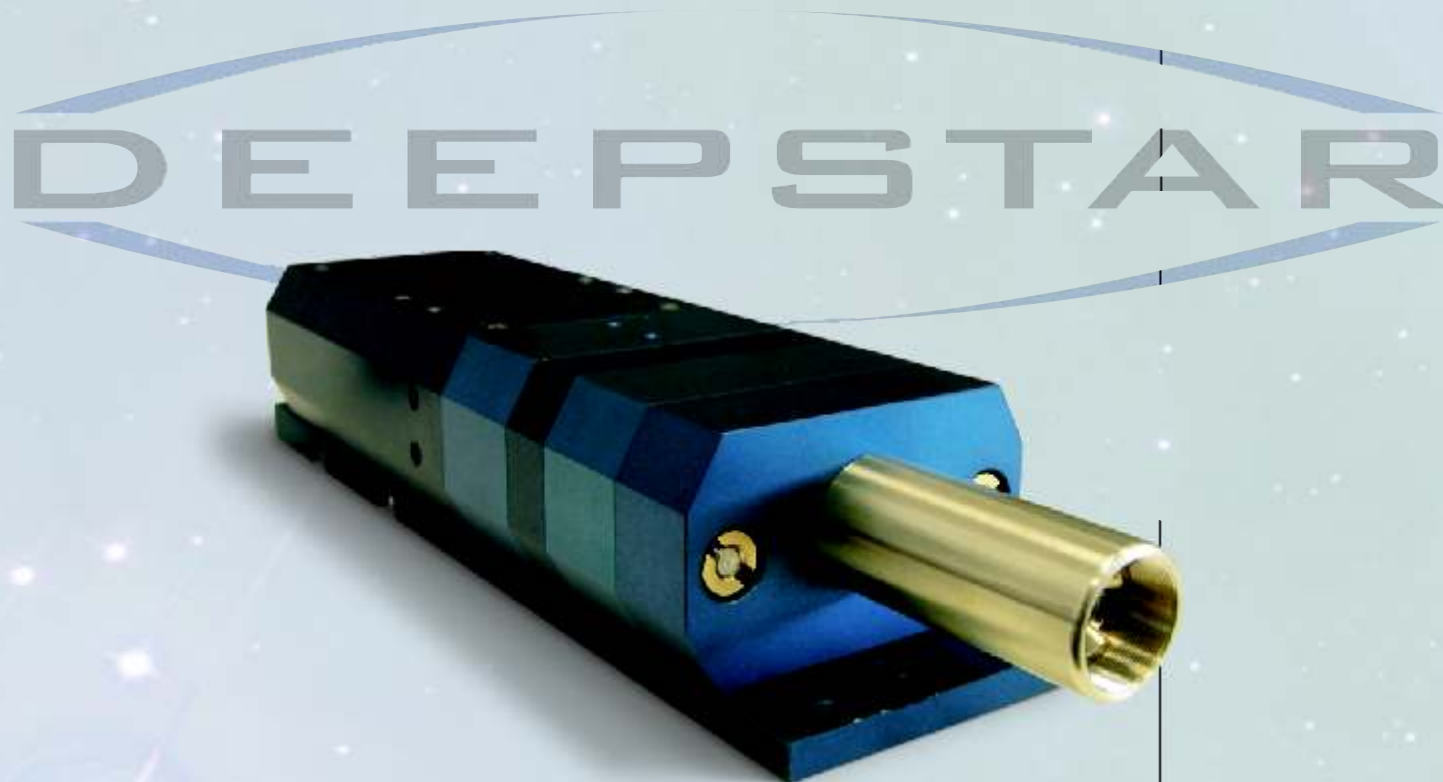
There 's a name for  
**real 100 % Modulation**  
**Omicrons Deepstar® Laser Diode Module**



## Diode Lasers with High-Speed modulation and 100% modulation depth

Omicron's **DEEPSTAR**® temperature stabilised diode lasers of the LDM-Series offer high-speed modulation up to 100 MHz and real 100% modulation depth.

For the first time, the **DEEPSTAR**® analogue and digital modulated laser diode modules offer a real 100% modulation depth of >>2.500.000:1. Especially developed for fluorescence excitation and all other applications where absolutely no remaining light is allowed in "modulation zero"-state, these lasers are the ideal light source for e.g. Confocal Laser Scanning Microscopy and Flow Cytometry. With their "ultra-deep" analogue modulation of more than 15 MHz and digital modulation of more than 150 MHz and with rise- and falltimes of below two nanoseconds, these lasers are suitable for high-speed applications that were formerly only possible by using CW lasers and AO-modulators. The lasers offer an RS-232 interface for laser control and an industrial standard supply voltage of 24VDC. The analog and digital signal inputs can be configured in voltage and impedance, so adaption to existing signal sources can be done easily. The modular principle of the LDM Series laserheads offers a lot of options like single-mode fiber coupling with an efficiency of upto 75%, collimation optics for 1 to 15mm beam diameter, focussing objectives down to below one micron and many more.



Specifications TA Deepstar®-Models		
	Bluephoton® TA Deepstar®	Redphoton® TA Deepstar®
Wavelengths & Powers (other wavelengths and powers on request)	<b>Single-Mode (SM):</b> 375nm / 20mW 405nm / 55mW 405nm / 120mW 445nm / 50mW 473nm / 20mW 488nm / 20mW <b>Multi-Mode (MM):</b> 405nm / 400mW (M <sup>2</sup> <6) 445nm / 500mW (M <sup>2</sup> <3)	<b>Single-Mode (SM):</b> 635nm / 5mW 639nm / 40mW 643nm / 150mW 658nm / 130mW 670nm / 15mW 685nm / 35mW 705nm / 40mW 730nm / 40mW 785nm / 120mW 808nm / 200mW 830nm / 200mW 852nm / 150mW 980nm / 150mW 1016nm / 100mW 1060nm / 100mW <b>Multi-Mode (MM):</b> 638nm / 250mW and much more
Beam diameter (other diameters on request)	1.25mm (1/e <sup>2</sup> ) +/- 0.25mm (MM beam diameter may vary)	1.25mm (1/e <sup>2</sup> ) +/- 0.25mm (MM beam diameter may vary)
Beam quality M <sup>2</sup>	< 1.2 (SM) < 6 (MM)	< 1.2 (SM) < 6 (MM)
Astigmatism (corrected)	< 0.2*ZR	< 0.2*ZR
Beam ellipticity	< 1.1:1 (SM)	< 1.1:1 (SM)
Polarisation	> 100:1 vertical	> 100:1 vertical
Power stability	< 0.5% / h	< 0.5% / h
Noise 0Hz-100MHz	< 0.5% peak<>peak (CW)	< 0.5% peak<>peak (CW)
Modulation speed	Analog: up to 15MHz @ -3dB Digital: > 150MHz	
Modulation input signals	Analog: 0...1V / 50 Ohm (15MHz) or Analog: 0...5V / 10 kOhm (>5MHz) Digital: 0...1V / 50 Ohm with prog. Trigger-Level (> 150MHz) or Digital: 0...5V / 200 Ohm with prog. Trigger-Level (> 100MHz)	
Rise- and falltime	Analog: < 25ns Digital: < 1 ns	
Modulation depth	> 2.500.000:1	
Supply voltage	24VDC, 2 Amp.	
Features	Safety- Interlock RS-232 Interface	
Options	LDM.COL - collimator objective LDM.FOC - customized focussing objective LDM.FASY.XXX - fibre coupling unit LDM.AAC - Automatic Aging Compensation LDM.24VPSU - worldwide power supply unit LDM.MON - high-speed light monitoring	